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REMARKS

After entry of this Amendment, claims 1, 13, 15-17, 47, 49, 50, 52-59 are pending in this application. Claims 1, 13, 15, 16, 47, 49, 50, 52-57 have been amended. Claims 14 and 51 have been cancelled. New independent claims 58 and 59 have been added. Applicant has maintained the 16 claims or less as required by the examiner under the multiplicity rejection with traverse. Applicant concurrently submits replacement drawing sheets 1 and 2 reflecting changes to Figures 1 and 2 to address the Examiner's objection to the disclosure noted below. The below remarks correspond to the numbered paragraphs in the pending Office Action.

1. Applicant respectfully maintains its traversal on the prior 35 U.S.C. 112, second paragraph, multiplicity of claims rejection and required election of 16 claims. Applicant maintains its position that it is improper to unduly limit Applicant to 16 claims or less based on the Examiner's assertion of possible misinterpretation and misunderstanding of those claims by those skilled in the art. The Examiner is requested to cite an MPEP section which authorizes limiting applicant to 16 claims since MPEP § 607 allows up to 20 claims without additional fees and allows over 20 claims if additional fees are paid.

2. Claims 1, 13, 54 and 55 are rejected under 35 U.S.C. 132 on the basis of new matter. The Examiner asserts that claims 1, 13 and to a lesser extent claim 55 lack support in the disclosure for the first die support's "exclusive" support of the first die in the horizontal directions both along the first axis of rotation and transverse to the first axis of rotation. The Examiner notes the upper die "plays a part" in supporting the lower die in the horizontal transverse and horizontal longitudinal directions.

Applicant refers the Examiner to amended Figures 1 and 2, and Figures 6, 7 and 8 and specification ¶¶ 47-53 and 82-83. In both disclosed embodiments of the first modular die support (individual rollers 44 or cylindrical roller bearing blocks

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160), the first modular die support, without attachment directly to or through use of the columns, solely maintains the position of the rotary die in the upward and horizontal directions (axial and transverse) independent of the columns as claimed and engages the rotary die permitting rotation. Claims 1 and 13 have been amended to clarify these features and spacial relationships. In these disclosed aspects, the second die roll 126 either merely rests vertically on top of first die roll 110 (Figs. 1, 2 and 6) or is separated from the lower die (Fig. 8) and neither supports or restrains movement of the first die roll 110 in the transverse horizontal direction or longitudinally along the axis of rotation 111 as suggested by the Examiner. There is no other structure other than the first modular die support that engages and maintains the position of first die roll 110 by holding it in an operable rotary position relative to the frame upwardly and in the horizontal directions and thus, solely engages and maintains the position of first die 110. Figs. 1, 2 and 7. The original written specification and illustrations disclose the claimed structure and spacial relationships of the first modular die support. Claim 13 has also been amended to simply replace "rods" with columns for consistency as have later claims.

The Examiner further asserts that claim 54 includes new matter of journals extending from each end of the dies. The Examiner's attention is directed to the specification ¶ 51 where it states: "In this aspect, first 110 and second 126 dies include a journal 118 extending from each end of the respective die roll . . ." (emphasis added). This disclosure in the specification supports claim 54. Reconsideration of the new matter rejections is requested.

3. Claims 1, 13-17 and 54 are rejected under 35 U.S.C. § 112, first paragraph, for failure to comply with the written description requirement. The Examiner does not specifically identify the portion(s) of the referenced claims in issue but notes "as set forth above." Applicant understands this to mean the new matter rejections noted

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above pertaining to claims 1, 13 and 54. Based on the above amendments, explanations and citations to the written disclosure, reconsideration is requested.

4. The Examiner objects to the disclosure based on failure to identify different embodiments noting a discrepancy between Figures 1 and 2, specifically, Figure 1 does not clearly show roller 44 engaging a side face of the radial flange.

Applicant herein submits replacement drawing sheets 1 and 2 reflecting changes to Figures 1 and 2. Figure 1 has been amended to: (1) extend the leader line of number 112, (2) added number 122 and (3) to show bearing roller 44 axially inward of radial flange 122 to be consistent with original Figures 2 and 6 and specification ¶¶ 48, 82. Figure 1 has also been amended to show second die roll 126 axially inward from radial flange 122 to be consistent with original Figure 6 and specification ¶ 45. Figure 2 has been amended at the intersection of the first 110 and second 126 die rolls to be consistent with original Figure 6 and specification ¶ 45. Reconsideration is requested.

5. Claims 47, 49-57 are objected due to informalities relating to positive recitation of the first rotary die in the body of the claim. Applicant herein amends the preambles in claims 47 and 49-57 to claim a "modular rotary die apparatus". Reconsideration is requested.

6. Claims 1, 13-17, 47, 49-57 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention.

With respect to the claims inclusion of the "exclusive" term for support in horizontal directions, the Examiner's attention is directed to Applicant's explanation and amendments under the new matter rejection above. To assist the Examiner, the

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position of the first modular die support 38 is separate and independent of the columns and itself solely maintains the position of the die roll in a stationary position relative to the base while permitting the required rotation of the die roll. The modular die support further solely engages the die roll as opposed to several structures, for example Gautier's use of bearing blocks and rollers necessary to engage and restrain the die rolls from movement. The second die support solely maintains the position of the second die roll in the horizontal direction transverse to the second axis of rotation.

Claims 1, 13-17, 49, 50 and 52-57 have been amended to further clarify the independent relationships between the die supports columns and the rotary dies. Regarding the term support, applicant has amended the claims to further clarify the structural and spacial relationships. The specification describes how the die supports limit movement in the vertical and horizontal directions. See ¶¶ 48, 51, 52, and Figures 1, 2, 6, 7 and 9.

With respect to claims 47 and 53 usage of high and low speeds, Applicant has amended claims 47 and 53 to further define the die supports and claimed speeds which are supported by the disclosure. See ¶¶ 47, 48, 51, 52 and 54.

Claims 47 and 55 are asserted to be either claiming more than one type of die support or a single support swappable for another unclaimed die support. Claims 47 and 55 have been amended to more positively recite the first and second modular die supports and the interchangeability between the different claimed supports. Support for the meaning of the first and second die supports and interchangeability is found in the written specification and illustrations. See ¶¶ 3, 9, 47-51, 54 and Figures 1, 2, 7 and 8. From the amendments, claim terms and in view of the written disclosure, claims 47 and 55 as amended distinctly claim the interchangeability of the first and second die supports. Reconsideration is requested.

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7, 8. Claims 1, 13, 16, 17, 47, 49 and 53 are rejected under 35 U.S.C. 102(b) as being anticipated by Gautier '078. The Examiner asserts Gautier '078 includes 4 columns (31), a base (12), a cap, a cross member (15), a first die support module having spaced bearings (13) fixed directly to the base (12), a second die support modular having spaced bearings (16) and a pressure device (21, 22).

Applicant asserts that Gautier lower rollers (13) do not solely rollingly engage or maintain the operable position of the lower die roll independent of the columns as presently claimed. Gautier uses a combination of rollers 13 and bearing blocks 3 and 4 restrained in side plates to engage and maintain position of the die rolls. As previously cited in the prior office action response, Gautier's disclosure expressly states that Gautier's roller bearing 4 confined in the frame side plate "primarily will be resisting horizontal forces perpendicular to the plane of the axes 1A and 2A ..." Col. 3 ll. 35-38. Gautier further does not teach or suggest that rollers 13 provide any support or restraint of the die roll longitudinally along the axis of rotation. Such restraint is necessarily provided by bearings 3 and 4 mounted in the frame side plate.

Gautier expressly requires one set of cylindrical roller bearings 3 and 4 mounted in a frame side plate to resist horizontal forces (axial and transverse) and movement of the lower die roll. Gautier Figs. 2 and 4. Applicant's inventive die apparatus embodiment using rollers 44 eliminates the last set of bearings 3 and 4 that need to be housed in precision ground side plates taught by Gautier. Col 3. ll. 35-38. See Gautier Fig. 1-3 (showing prior art use of 4 cylindrical bearing blocks confined by both frame side plates and Gautier Figs. 4 and 5 eliminating bearings 5 and 6 but still requiring bearing blocks 3 and 4 mounted in the side plates). Applicant's inventive claimed apparatus overcomes this limitation of Gautier. Applicant's alternate embodiment of cylindrical roller bearings spaced from the columns, or the interchangeability thereof, is not anticipated or rendered obvious by Gautier for the same reasons.

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Amended claims 1 and 13 claim sole engagement with and maintaining of position of the first die 110 by the first die support 38 in claimed directions independent of the columns, i.e. independent of any side plate support structure. Gautier discloses the need for the side frame to support bearings 3 and 4 to "resist horizontal forces perpendicular to the plane of the axes 1A and 2A . . ." and rollers 13 provide no disclosed resistance along axis 2A. Therefore, Gautier fails to anticipate, teach or suggest the invention in claims 1 and 13 as amended. Claim 16 has been amended to claim use of the angularly spaced individual rollers for the second die support and the structural relationship between the rollers and the die roll. Gautier requires use of bearing 3 mounted in the frame side plate.

Claim 17 includes both bearings in the second die support to be cylindrical roller bearings engagable with journals extending from each end of the second die 126. Gautier does not anticipate, teach or suggest the claimed structural combination and alternative die supports as one end of each die in Gautier is supported by rollers 13 or 16 and the other end with bearings 3 and 4 in the side plate. Gautier in fact teaches away from the claimed structure by requiring both a bearing block 3 or 4 and rollers 13 or 16 for each die support. Therefore, the claimed structure is not anticipated, taught or rendered obvious by Gautier taken singularly or in any permissible combination.

Amended claims 47, 49 and 53 claim first and second modular die supports each die support interchangeable between a low speed die support operable below 600 linear feet per minute and high speed support operable above 600 linear feet per minute. The low and high speed die supports being different claimed structure from one another in claims 49 and 53. The claimed interchangeability of the die supports is between different claimed die supports (rollers 44 and cylindrical roller bearing blocks 160) useable in the same frame (base 14, columns 20, cover 100) at different times to suit the particular die rolls and cutting application (for a example, a low or high speed

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application). This interchangeability of the inventive modular die apparatus is described and supported in ¶¶ 3, 9, 51 and 54. As disclosed, this is achieved in part because the first and second modular die support bearings are independent and spaced from the columns (¶¶ 3, 9 and 51). Neither Gautier nor any other reference of record teaches or discloses a modular rotary die apparatus having the flexibility to interchange different types of die supports to adapt to the particular application. Therefore, the claimed structure is not anticipated, taught or rendered obvious by the cited references taken singularly or in any permissible combination.

9, 10. Claims 1, 13, 16, 17, 47, 49, and 53 are rejected under 35 U.S.C. 103(a) as being obvious over Gautier '087 and the Examiner's taking official notice of U.S. Patent No. 4,553,467 to Belongia. Belongia teaches use of a gap adjustment means to precisely adjust the space between the die rolls. Col. 2 ll. 5-10. Notably, Belongia discloses the heavy machined side plate-based frame using cylindrical bearing block units 14 and 15 mounted in heavy, precision machined slots in the side frames that have been distinguished by the Applicant from the present invention in the original specification as filed. See Col. 4 ll. 62-68, Col. 5 ll. 1-3.

The Examiner cites Belongia for the interchangeability of die supports or replaceability of the die support "modules". Respectfully, the Examiner is misinterpreting the meaning of claim terms interchangeable and modular in independent claims 1 (modular), 13 (modular) and 47. As described above, and more particularly claimed in claim 47, the interchangeability aspect is not directed to simple replacement of a worn out bearing (which obviously can be done if the bearing is removable), but rather the ability to use different types of die supports in the same rotary die frame to suit the application (for example rollers 44 or bearing blocks 160). See specification ¶¶ 3, 9, 51 and 54. Hence, the inventive modular rotary die apparatus and modular die supports claim and teach not mere replaceable or

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removable die support assemblies or "modules" as used by the Examiner, but a true modular design where different die supports can easily be installed in the same modular frame. For assistance, the Examiner is referred to the American Heritage Dictionary definition of "modular": "2. Designed with standardized units or dimensions, as for easy assembly and repair or flexible arrangement or use: modular furniture, modular homes." American Heritage Dictionary 3rd ed. (emphasis added) (copy supplied).

With respect to claims 1, 13, 16 and 17, no interchangeable limitation is included in these claims and withdrawal of the rejection on the stated basis is requested. Notwithstanding, Gautier and Belongia do not alone or in combination teach or suggest a first modular die support that is spaced from the side plate frame and that solely engages and maintains a rotary position of the first die roll in the claimed directions independent of the columns (side frame structure). Both references use and necessarily rely on cylindrical roller bearing blocks positioned and confined in slots in heavy frame side plates.

With respect to claims 47, 49 and 53, Gautier and Belongia do not alone or in combination teach or suggest the interchangeable modular die supports as claimed and described above. Both references, due to their heavy, machined frame structure and in particular, the side plate(s) housing the cylindrical bearing blocks, are not interchangeable with different modular die supports as claimed, but necessarily rely on the specific disclosed/illustrated supports and bearings in the specific orientation to the frame. For example, one could not simply replace the Gautier bearing blocks 3 and 4 with individual roller-type supports 13 and maintain the disclosed restraint of the die rolls or operability. Such replacement would not restrain the die roll in at least the horizontal axial direction.

Reconsideration is requested.

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11. Claims 1, 13, 15-17, 47, 49-53, 55, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gautier '078 and the Examiner's taking official notice of radial flanges in U. S. Patent No. 4,452,116 to Kesten.

Claims 1, 47, 49 and 53 do not include the limitation of a radial flange and withdrawal of the rejection on the stated basis is requested.

On the remaining claims, as noted by the Examiner, Gautier does not teach or suggest use of radial flanges to prohibit longitudinal movement of the dies along the axes of rotations 1A and 2A. Gautier's only disclosure of structure to prevent such movement are bearings 3 and 4 which are confined in the frame side plates to restrain the die in both horizontal directions. Therefore, it is submitted that the combination of Gautier with Kesten is improper since Kesten adds a feature to Gautier that Gautier does not need and provides no use or benefits in Gautier.

Applicant further notes that no art of record discloses use of only individual rollers solely engaging and maintaining the rotary position of the die rolls through use of a radial flange. All references of record teach use of at least one cylindrical roller bearing block mounted in a heavy frame side plate to restrain and maintain the position of the die rolls. The Examiner is requested to cite a reference which discloses use of only individual rollers spaced from side plate structure to engage and maintain the position of the die rolls using a radial flange.

With respect to claims 47, 49, 50, 52, 53, 55 and 56, as explained above, neither Gautier or Kesten, alone or in any permissible combination, teaches or suggests the claimed interchangeability of the die supports as claimed. The examiner is requested to cite such a reference.

Claims 1, 13, 15-17, 47, 49-53, 55 and 56 are not rendered obvious in view of the cited references for the reasons stated.

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12. The Examiner stated that Claims 54 and 57 may be allowable if rewritten to overcome the section 112 rejections and if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. Applicant asserts that it has overcome the section 112 rejections particular to amended claims 54 and 57 and have rewritten claim 54 and 57 in independent form to include all of the limitations of the respective base claim and any intervening claims.

New claim 58 has been added. Claim 58 includes the first and second modular dies supports as individual bearing rollers which further claim the engagement and die roll positioning features argued above and are patently distinguishable from the cited references. Applicant asserts claim 58 is allowable over the references of record alone and in any permissible combination.

New claim 59 claims cylindrical roller bearings independent of the columns with the above argued engagement and die roll positions and features which are patently distinguishable from the cited references.

For the reasons stated, it is respectfully submitted that this amendment places all pending claims 1, 13, 15-17, 47, 49, 50, and 52-59 in a condition for allowance, notice of which is respectfully requested.

Respectfully submitted,

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